

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listings of Claims:

1. (canceled)
2. (currently amended) A The semiconductor device of Claim 4 comprising:
a semiconductor substrate comprising:
a region of a first conductivity type; and
a field shield region of a second conductivity type, said field shield region being laterally bounded by dielectric sidewalls, said dielectric sidewalls separating said field shield region from said region of the first conductivity type, said field shield region being bounded from below by a PN junction with said region of the first conductivity type;
a top electrode in electrical contact with a top surface of said substrate;
a bottom electrode in electrical contact with a bottom surface of said substrate; and
a shield electrode in electrical contact with the field shield region,
wherein the electrical contact between the shield electrode and the field shield region is ohmic.
3. (currently amended) A The semiconductor device of Claim 4 comprising:
a semiconductor substrate comprising:
a region of a first conductivity type; and
a field shield region of a second conductivity type, said field shield region being laterally bounded by dielectric sidewalls, said dielectric sidewalls separating said field shield region from said region of the first conductivity type, said field shield region being bounded from below by a PN junction with said region of the first conductivity type;
a top electrode in electrical contact with a top surface of said substrate;

a bottom electrode in electrical contact with a bottom surface of said substrate; and

a shield electrode in electrical contact with the field shield region,
wherein the electrical contact between the top electrode and the top surface is ohmic.

4. (canceled)

5. (currently amended) A The semiconductor device of Claim 1 comprising:
a semiconductor substrate comprising:

a region of a first conductivity type; and

a field shield region of a second conductivity type, said field shield region being laterally bounded by dielectric sidewalls, said dielectric sidewalls separating said field shield region from said region of the first conductivity type, said field shield region being bounded from below by a PN junction with said region of the first conductivity type;

a top electrode in electrical contact with a top surface of said substrate;

a bottom electrode in electrical contact with a bottom surface of said substrate; and

a shield electrode in electrical contact with the field shield region,
wherein the electrical contact between the bottom electrode and the bottom surface is ohmic.

6. (canceled)

7. (currently amended) A The semiconductor device of Claim 1 comprising:
a semiconductor substrate comprising a vertical JFET, said vertical JFET comprising:

a region of a first conductivity type; and

a field shield region of a second conductivity type, said field shield region being laterally bounded by dielectric sidewalls, said dielectric sidewalls separating said field shield region from said region of the first conductivity type, said field shield region being bounded from below by a PN junction with said region of the first conductivity type;

a top electrode in ohmic electrical contact with a top surface of said substrate;
a bottom electrode in ohmic electrical contact with a bottom surface of said substrate; and
a shield electrode in electrical contact with the field shield region
a vertical JFET with ohmic bottom and top electrodes.

8. (currently amended) A The semiconductor device of Claim 1 comprising:
a semiconductor substrate comprising:

a region of a first conductivity type; and
a field shield region of a second conductivity type, said field shield region being laterally bounded by dielectric sidewalls, said dielectric sidewalls separating said field shield region from said region of the first conductivity type, said field shield region being bounded from below by a PN junction with said region of the first conductivity type;
a top electrode in electrical contact with a top surface of said substrate;
a bottom electrode in electrical contact with a bottom surface of said substrate; and
a shield electrode in electrical contact with the field shield region,
wherein the contact between the top electrode and the top surface of said substrate is a Schottky barrier contact and the contact between the bottom electrode and the bottom surface of said substrate is ohmic.

9-38 (canceled)